

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the previous amendments and the following remarks.

Claims 1 and 10 are amended to address the antecedent basis issues raised in the section of the Official Action titled "Claim Rejections - 35 USC § 112". That section also states that the terminology "close to" renders those claims indefinite. Applicants respectfully disagree for the following reasons.

An ordinarily skilled artisan in the field at issue here would have recognized that the maximum power transfer from a generator to an inductor takes place when the phase angle between current and voltage is as close as possible to zero. Specifically, the power is proportional to the cosine of this phase angle. Moreover, such an artisan would also have recognized that the noted phase angle may not, in practice, be equal to exactly zero due to manufacturing tolerances in electrical components. Indeed, it would not have been possible to verify if such a phase angle is exactly zero due to measurement errors. In view of the above, Applicants respectfully submit that the current-voltage phase angle being close to zero as recited in Claims 1 and 10 is definite.

For the above reasons, withdrawal of the rejections under 35 U.S.C. § 112, second paragraph is respectfully requested.

Claim 1 is rejected as being anticipated by the Hufford patent. Applicants disagree.

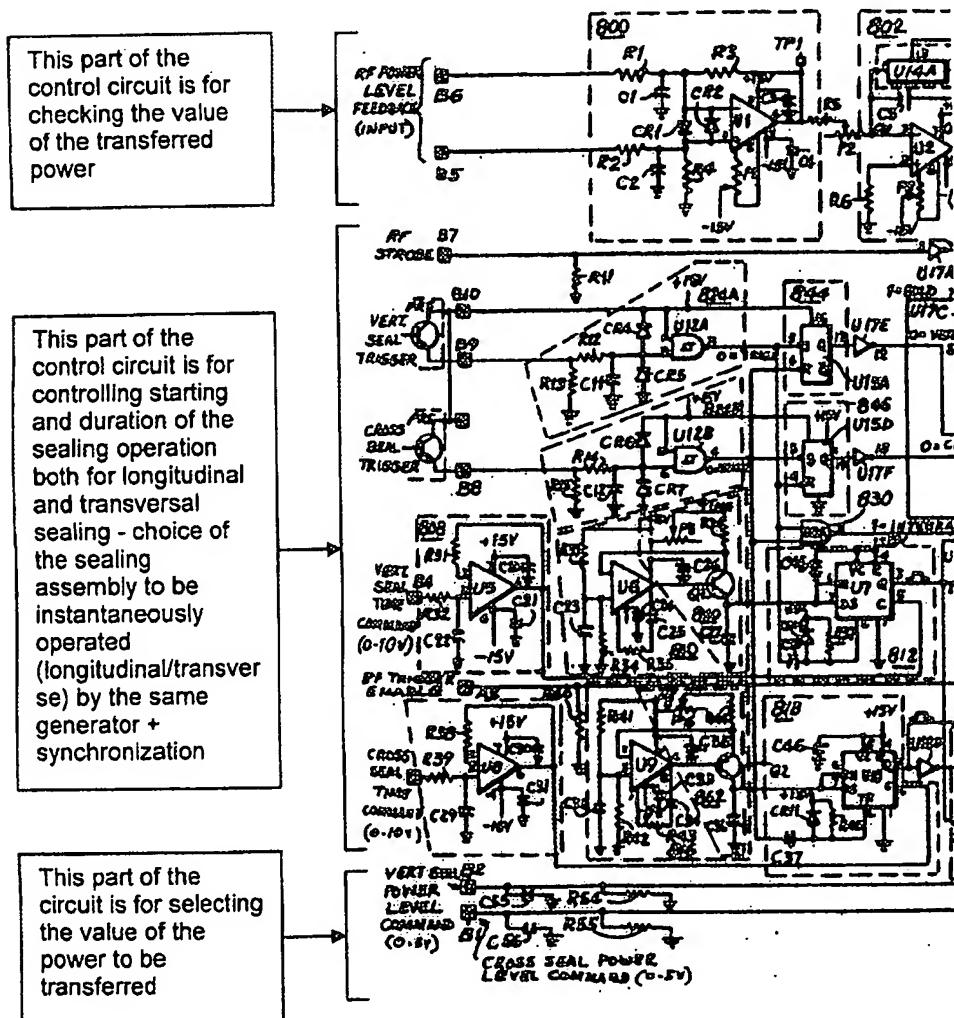
Claim 1 recites an induction sealing device for producing packages of pourable food products by transversely sealing a tube of sheet packaging material having at least one layer of induction heatable material covered with plastic material.

The device includes generating means for generating an alternating power signal, the alternating power signal having a current-voltage phase angle, at least one inductor receiving the alternating power signal to induce a parasitic electric current in the layer and locally melt the plastic material to form a transverse seal, and a matching circuit for achieving optimum power transfer between the generating means and the inductor. The matching circuit includes an inductive-capacitive circuit, in which at least one inductive element is connected to at least one variable-capacitance capacitive element, the capacitance of the capacitive element being adjustable so that the current-voltage phase angle is close to zero.

The Hufford patent refers to a form, fill and seal machine for making aseptic sealed packages, in which induction heating is used to longitudinally seal the edges of a web together to form a tube and to transversely seal the tube. As discussed in lines 45-48 of column 19, the machine uses only one r-f generator to accomplish both a longitudinal and a transverse seal. The machine includes a coupling mechanism for directing the electromagnetic energy generated by the generator to either a longitudinal sealing assembly or a transverse sealing assembly, and a control circuit illustrated in Fig. 37 which controls the power level generated by the generator, depending upon whether a longitudinal seal segment or a transverse seal is being made, as discussed in the paragraph bridging columns 7 and 8.

The Official Action appears to take the position that this control circuit constitutes a matching circuit. However, the control circuit merely controls the power level and duration of the energization of the longitudinal sealing assembly and of the transverse sealing assembly. The control circuit does not adapt the impedance of the transverse sealing assembly or of the longitudinal sealing assembly to the

impedance of the generator so as to maximize the transferred power. Instead, the control circuit only produces signals for adjusting, operating and checking the longitudinal sealing assembly and the transverse sealing assembly, but not signals which vary the electric load to which the generator is subjected. To better understand the control circuit, a portion of Fig. 37, in which some explanatory notes have been inserted, follows.



No part of the circuit is for matching the impedance of the inductor with the impedance of the generator. Moreover, even assuming *arguendo* that the control

circuit shown in Figure 37 is a matching circuit, the circuit is not an inductive-capacitive circuit, and does not include a variable-capacitance element as recited in Claim 1.

Accordingly, the Hufford patent does not disclose an induction sealing device including generating means for generating an alternating power signal having a current-voltage phase angle, at least one inductor receiving the alternating power signal to induce a parasitic electric current in a layer, and a matching circuit for achieving optimum power transfer between the generating means and the inductor, the matching circuit including an inductive-capacitive circuit, in which at least one inductive element is connected to at least one variable-capacitance capacitive element, the capacitance of the capacitive element being adjustable so that the current-voltage phase angle is close to zero, in combination with the other elements recited in Claim 1.

Claim 1 is therefore allowable over the Hufford patent, and withdrawal of the anticipatory rejection of Claim 1 is respectfully requested.

Claim 10, the other independent claim, is also rejected as being anticipated by the Hufford patent. That rejection is also traversed.

Claim 10 recites an induction sealing method for producing packages of pourable food products by transversely sealing a tube of sheet packaging material having at least one layer of induction-heatable material covered with plastic material. The method includes generating an alternating power signal by a generator, the alternating power signal having a current-voltage phase angle, supplying the alternating power signal to at least one inductor to induce a parasitic electric current in the layer and locally melt the plastic material to form a transverse seal, and

optimizing power transfer between the generator and the inductor by a matching circuit. The optimizing includes adjusting the capacitance of at least one capacitive element connected to at least one inductive element so that the current-voltage phase angle is close to zero.

For reasons consistent with the above discussion, the Hufford patent cannot be said to disclose an induction sealing method including optimizing power transfer between a generator and an inductor by a matching circuit, or adjusting the capacitance of at least one capacitive element connected to at least one inductive element, as recited in Claim 10.

Claim 10 is therefore also allowable over the Hufford patent, and withdrawal of the anticipatory rejection of Claim 10 is also respectfully requested.

The dependent claims are allowable at least by virtue of their dependence from allowable independent claims. Thus, a detailed discussion of the additional distinguishing features recited in the dependent claims is not set forth at this time.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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